WHAT IS CLAIMED IS:

1. A light-emitting device comprising:

a light-emitting unit configured to emit a first light radiation, wherein the light-emitting unit includes a plurality of first connecting pads;

a base substrate configured to emit a second light radiation when stimulated by the first light radiation, wherein the base substrate includes a plurality of second connecting pads; and

a plurality of conductive bumps connecting the first connecting pads of the light-emitting unit to the second connecting pads of the base substrate.

2. The light-emitting device of claim 1, wherein the light-emitting unit is a light-emitting diode configured to emit blue light.

3. The light-emitting device of claim 1, wherein the base substrate is configured to emit yellow light when stimulated by the first light radiation from the light-emitting unit.

4. The light-emitting device of claim 1, wherein the light-emitting unit comprises:

a first substrate;

a first cladding layer;

an active layer;

a second cladding layer; and

first and second ohmic contact layers;

wherein the first connecting pads are connected to the first and second ohmic contact layers.

5. The light-emitting device of claim 4, wherein the first substrate includes a sapphire substrate, a SiC substrate or the like.

6. The light-emitting device of claim 4, wherein the first cladding layer includes an n-type GaN layer.

7. The light-emitting device of claim 4, wherein the active layer includes a multi-quantum well multi-layer structure or a single well structure.

8. The light-emitting device of claim 4, wherein the second cladding layer includes a p-type GaN layer.

9. The light-emitting device of claim 4, wherein the first ohmic contact layer includes is made of a metallic alloy including Ti/Al, Ti/Al/Ti/Au, Ti/Al/Pt/Au, Ti/Al/Ni/Au, Ti/Al/Pd/Au, Ti/Al/Cr/Au, Ti/Al/Co/Au, Cr/Al/Cr/Au, Cr/Al/Pt/Au, Cr/Al/Pd/Au, Cr/Al/Ti/Au, Cr/Al/Co/Au, Cr/Al/Ni/Au, Pd/Al/Ti/Au, Pd/Al/Pt/Au, Pd/Al/Ni/Au, Pd/Al/Pd/Au, Pd/Al/Cr/Au, Pd/Al/Co/Au, Nd/Al/Pt/Au, Nd/Al/Ti/Au, Nd/Al/Ni/Au, Nd/Al/Cr/Au, Nd/Al/Co/A, Hf/Al/Ti/Au, Hf/Al/Pt/Au, Hf/Al/Ni/Au, Hf/Al/Pd/Au, Hf/Al/Cr/Au, Hf/Al/Co/Au, Zr/Al/Ti/Au, Zr/Al/Pt/Au, Zr/Al/Ni/Au, Zr/Al/Pd/Au, Zr/Al/Cr/Au, Zr/Al/Co/Au, TiN_x/Ti/Au, TiN_x/Pt/Au, TiN_x/Ni/Au, TiN_x/Pd/Au, TiN_x/Cr/Au, TiN_x/Co/Au $TiWN_x$/Ti/Au, $TiWN_x$/Pt/Au, $TiWN_x$/Ni/Au,

$TiWN_x$/Pd/Au, $TiWN_x$/Cr/Au, $TiWN_x$/Co/Au, NiAl/Pt/Au, NiAl/Cr/Au, NiAl/Ni/Au, NiAl/Ti/Au, Ti/NiAl/Pt/Au, Ti/NiAl/Ti/Au, Ti/NiAl/Ni/Au, Ti/NiAl/Cr/Au or the like.

10. The light-emitting device of claim 4, wherein the second ohmic contact layer is made of a metallic alloy including Ni/Au, Ni/Pt, Ni/Pd, Ni/Co, Pd/Au, Pt/Au, Ti/Au, Cr/Au, Sn/Au, Ta/Au, TiN, $TIWN_x$, WSi_x or the like.

11. The light-emitting device of claim 4, wherein the second ohmic contact layer is made of a transparent conductive oxide including indium tin oxide, cadmium tin oxide, ZnO:Al, $ZnGa_2O_4$, SnO_2:Sb, Ga_2O_3:Sn, $AgInO_2$:Sn, In_2O_3:Zn, NiO, MnO, FeO, Fe2O3, CoO, CrO, Cr_2O_3, CrO_2, CuO, SnO, Ag_2O, $CuAlO_2$, $SrCu_2O_2$, $LaMnO_3$, PdO or the like.

12. The light-emitting device of claim 1, wherein the base substrate includes a luminescent layer, a passivation layer, and the second connecting pads are formed over the passivation layer.

13. The light-emitting device of claim 12, wherein the luminescent layer includes ZnSe-based material.

14. The light-emitting device of claim 12, wherein the luminescent layer is made of a material blend including at least one phosphor powder and benzocyclobutene or an epoxy-based negative resist.

15. The light-emitting device of claim 12, wherein the passivation layer of the base substrate includes SiO_2.

16. The light-emitting device of claim 12, wherein the base substrate further comprises:

a second substrate; and

a reflective layer over a surface of the second substrate;

wherein the luminescent layer is placed over a surface of the reflective layer.

17. The light-emitting device of claim 16, wherein the second substrate includes a silicon-based material.

18. The light-emitting device of claim 16, wherein the reflective layer includes a metallic material.

19. The light-emitting device of claim 16, wherein the reflective layer includes an insulating dielectric material.

20. A process of forming a light-emitting device, comprising:

forming a light-emitting unit provided with a plurality of first connecting pads, wherein the light-emitting unit is configured to emit a first light radiation;

forming a base substrate provided with a plurality of second connecting pads, wherein the base substrate is configured to emit a second light radiation when stimulated with the first light radiation;

forming a plurality of conductive bumps on either the first or second connecting pads; and

connecting the first and second connecting pads via the conductive bumps.

21. The process of claim 20, wherein the first and second connecting pads via the conductive bumps comprises:

placing the light-emitting unit so that the conductive bumps contact with the second connecting pads of the base substrate; and

performing a reflow process.

22. The process of claim 20, wherein the conductive bumps include solder bumps.

23. The process of claim 20, wherein forming a light-emitting unit comprises:

forming a multi-layer structure including a first substrate, a first cladding layer, an active layer, a second cladding layer and a second ohmic contact layer;

patterning the multi-layer structure to expose an area of the first cladding layer;

forming a first ohmic contact layer on the exposed area of the first cladding layer,

forming an insulating layer to cover a portion of the multi-layer structure, wherein the insulating layer exposes areas of the first and second ohmic contact layers; and

forming the first connecting pads in the exposed areas of the first and second ohmic contact layers.

24. The process of claim 23, wherein the first substrate includes a sapphire substrate, a SiC substrate or the like.

25. The process of claim 23, wherein the first cladding layer includes an n-type GaN layer.

26. The process of claim 23, wherein the active layer includes a multi-quantum well multi-layer structure or a single well structure.

27. The process of claim 23, wherein the second cladding layer includes a p-type GaN layer.

28. The process of claim 23, wherein the first ohmic contact layer is made of a metallic alloy including Ti/Al, Ti/Al/Ti/Au, Ti/Al/Pt/Au, Ti/Al/Ni/Au, Ti/Al/Pd/Au, Ti/Al/Cr/Au, Ti/Al/Co/Au, Cr/Al/Cr/Au, Cr/Al/Pt/Au, Cr/Al/Pd/Au, Cr/Al/Ti/Au, Cr/Al/Co/Au, Cr/Al/Ni/Au, Pd/Al/Ti/Au, Pd/Al/Pt/Au, Pd/Al/Ni/Au, Pd/Al/Pd/Au, Pd/Al/Cr/Au, Pd/Al/Co/Au, Nd/Al/Pt/Au, Nd/Al/Ti/Au, Nd/Al/Ni/Au, Nd/Al/Cr/Au, Nd/Al/Co/A, Hf/Al/Ti/Au, Hf/Al/Pt/Au, Hf/Al/Ni/Au, Hf/Al/Pd/Au, Hf/Al/Cr/Au, Hf/Al/Co/Au, Zr/Al/Ti/Au, Zr/Al/Pt/Au, Zr/Al/Ni/Au, Zr/Al/Pd/Au, Zr/Al/Cr/Au, Zr/Al/Co/Au, TiNx/Ti/Au, TiNx/Pt/Au, TiNx/Ni/Au, TiNx/Pd/Au, TiN_x/Cr/Au, TiN_x/Co/Au $TiWN_x$/Ti/Au, $TiWN_x$/Pt/Au, $TiWN_x$/Ni/Au, $TiWN_x$/Pd/Au,

$TiWN_x$/Cr/Au, $TiWN_x$/Co/Au, NiAl/Pt/Au, NiAl/Cr/Au, NiAl/Ni/Au, NiAl/Ti/Au, Ti/NiAl/Pt/Au, Ti/NiAl/Ti/Au, Ti/NiAl/Ni/Au, Ti/NiAl/Cr/Au or the like.

29. The process of claim 23, wherein the second ohmic contact layer is made of a metallic alloy including Ni/Au, Ni/Pt, Ni/Pd, Ni/Co, Pd/Au, Pt/Au, Ti/Au, Cr/Au, Sn/Au, Ta/Au, TiN, $TiWN_x$, WSi_x or the like.

30. The process of claim 23, wherein the second ohmic contact layer is made of a transparent conductive oxide including indium tin oxide, cadmium tin oxide, ZnO:Al, $ZnGa_2O_4$, SnO_2:Sb, Ga_2O_3:Sn, $AgInO_2$:Sn, In_2O_3:Zn, NiO, MnO, FeO, Fe_2O_3, CoO, CrO, Cr_2O_3, CrO_2, CuO, SnO, Ag_2O, $CuAlO_2$, $SrCu_2O_2$, $LaMnO_3$, PdO or the like.

31. The process of claim 20, wherein forming a base substrate comprises:

forming a luminescent layer;

forming a passivation layer covering the luminescent layer; and

forming the second connecting pads over the passivation layer.

32. The process of claim 31, wherein the luminescent layer includes ZnSe-based material.

33. The process of claim 31, wherein the luminescent layer is made of a material blend including at least one phosphor powder and benzocyclobutene or an epoxy-based negative resist.

34. The process of claim 31, wherein the passivation layer includes SiO_2.

35. The process of claim 31, wherein forming the base substrate further comprises:

forming a reflective layer over a surface of a second substrate; and

forming the luminescent layer over a surface of the reflective layer.

36. The process of claim 35, wherein the second substrate includes a silicon-based material.

37. The process of claim 35, wherein the reflective layer includes a metallic material.

38. The process of claim 35, wherein the reflective layer includes an insulating dielectric material.

39. The process of claim 23, wherein patterning the multi-layer structure to expose an area of the first cladding layer comprises:

forming a photoresist pattern;

etching through the photoresist pattern until an area of the first cladding layer is exposed; and

removing the photoresist pattern.